CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/RHM/CSR-05/040d/CEMENT/2016-17 Date: 17.05.2016

TEST REPORT ON CEMENT

* CUSTOMER	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
*AGENCY	:	**Mr. Rakesh H.M,** #112/B, 2nd Floor, Lottegollahalli, Devinagara, Bangalore-94.
*NAME OF THE WORK	:	Improvements of Roads from Amruthahalli Hanmanthappa House to Muninagappa House in Ward No. 7, Byatarayanapura, BBMP, Bangalore.
*REFERENCE	:	BBMP/EE/BTP/WO/ /2016-17 Dated: 16.05.2016
SAMPLE ID	:	Cement
SAMPLE RECEIVED ON	:	16.05.2016
PERIOD OF TESTING	:	16.05.2016 to 17.05.2016

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	29.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	170 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	485 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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****

VISHWANATH. I.A.
Chief Executive Officer

AE(WT)

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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T-2377

Job No.: CTCE/BBMP/RHM/CSR-05/040d/SAND-Gradation/2016-17 : 17.05.2016

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	: **Mr. Rakesh H.M,** #112/B, 2nd Floor, Lottegollahalli, Devinagara, Bangalore-94.
* Name of Work	: Improvements of Roads from Amruthahalli Hanmanthappa House to Muninagappa House in Ward No. 7, Byatarayanapura, BBMP, Bangalore.
*Reference	: BBMP/EE/BTP/WO/ /2016-17 Dated: 16.05.2016
Technical Reference	: IS : 2386 Part 1 - 1963 RA-2007
Sample ID	: Fine Aggregates
Sample Received on	: 16.05.2016
Date of Testing	: 17.05.2016

Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	93.00	90-100	90-100	90-100	95-100
2.36	77.50	60-95	75-100	85-100	95-100
1.18	59.40	30-70	55-90	75-100	90-100
600 Micron	27.80	15-34	35-59	60-79	80-100
300 Micron	12.30	5-20	8-30	12-40	15-50
150 Micron	6.20	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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VISHWANATH. I.A.
Chief Executive Officer

AE (NTH)

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/RHM/CSR-05/040d/AGG/2016-17 : 17.05.2016

TEST REPORT ON DETERMINATION GRADATION OF COARSE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. Rakesh H.M,**
#112/B, 2nd Floor, Lottegollahalli, Devinagara, Bangalore-94.

*** Name of Work** : Improvements of Roads from Amruthahalli Hanmanthappa House to Muninagappa House in Ward No. 7, Byatarayanapura, BBMP, Bangalore.

***REFERENCE** : BBMP/EE/BTP/WO/ /2016-17 Dated: 16.05.2016

Technical Reference : IS : 2386 Part 1 -1963 RA-2007

Sample ID : Coarse Aggregates (40mm)

Sample Received on : 16.05.2016

Date of Testing : 17.05.2016

Total Wt. of Aggregates in gms= **7000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	98.49	95-100	85-100
20	39.09	30-70	0-20
10	22.63	10-35	0-5
4.75	3.07	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits.

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VISHWANATH. I.A.
Chief Executive Officer

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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T-2377

Job No.: CTCE/BBMP/RHM/CSR-05/040d/CC Solid Block/2016-17 : 19.05.2016

TEST REPORT ON SOLID CONCRETE BLOCKS

*** Customer** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. Rakesh H.M,**
#112/B, 2nd Floor, Lottegollahalli, Devinagara, Bangalore-94.

*** Name of the Work** : Improvements of Roads from Amruthahalli Hanmanthappa House to Muninagappa House in Ward No. 7, Byatarayanapura, BBMP, Bangalore.

Reference : BBMP/EE/BTP/WO/ /2016-17 Dated: 16.05.2016

Sample Received on : 14.05.2016

Date of Testing : 19.05.2016

Size of Blocks : 400mm x 200mm x 200mm

Cross Sectional Area : 80000 mm^2

Technical Reference : IS: 2185 (Part 1) - 2005

No. of Blocks Tested : 08

Sl.No.	Block ID	Wt. in Kg	Failure load (KN)	Compressive strength (N/mm^2)	Requirement as per IS 2185 (Part 1) - 2005
1	Block 1	35.23	263.2	3.29	Minimum required Compressive Strength of Individual Units 3.20 N/mm^2
2	Block 2	34.12	265.3	3.32	
3	Block 3	35.96	260.6	3.26	
4	Block 4	35.78	264.8	3.31	
5	Block 5	34.85	258.6	3.23	
6	Block 6	35.26	256.6	3.21	
7	Block 7	35.78	258.8	3.23	
8	Block 8	34.56	261.5	3.27	

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VISHWANATH. I.A.
Chief Executive Officer

AE-1 CNB

AE (W-1)

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/RHM /STEEL/2016-17 19.05.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	:	**Mr. Rakesh H.M,** #112/B, 2nd Floor, Lottegollahalli, Devinagara, Bangalore-94.
Name of the Work	:	Improvements of Roads from Amruthahalli Hanmanthappa House to Muninagappa House in Ward No. 7, Byatarayanapura, BBMP, Bangalore.
Reference	:	BBMP/EE/BTP/WO/ /2016-17 Dated: 16.05.2016
Date of Test	:	19.05.2016
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	10	0.62	512	556	13.15	O.K	O.K

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M/s. Civil-Tech Consultants & Engineers

****

23/14, 7th Cross, 3rd Stage, 4th Block, Shakthiganapathinagara, Basaveshwaranagar, Bangalore-560079.

AE(CQ-1)

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Job No.: CTCE/BBMP/RHM /STEEL/2016-17 19.05.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	:	**Mr. Rakesh H.M,** #112/B, 2nd Floor, Lottegollahalli, Devinagara, Bangalore-94.
Name of the Work	:	Improvements of Roads from Amruthahalli Hanmanthappa House to Muninagappa House in Ward No. 7, Byatarayanapura, BBMP, Bangalore.
Reference	:	BBMP/EE/BTP/WO/ /2016-17 Dated: 16.05.2016
Date of Test	:	19.05.2016
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	12	0.89	515	557	13.40	O.K	O.K

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M/s. Civil-Tech Consultants & Engineers
23/14, 7th Cross, 3rd Stage,
4th Block, Shakthiganapathinagara,
Basaveshwaranagar,
Bangalore-560079.

****

AE(W)

CIVIL-TECH CONSULTANTS AND ENGINEERS

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T-2377

Job No.: CTCE/BBMP/RHM/CSR-05/040d/CUBE/2016-17 20.06.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* **Customer**	: **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* **Agency**	: **Mr. Rakesh H.M,** #112/B, 2nd Floor, Lottegollahalli, Devinagara, Bangalore-94.
* **Name of the work**	: Improvements of Roads from Amruthahalli Hanmanthappa House to Muninagappa House in Ward No. 7, Byatarayanapura, BBMP, Bangalore.
* **Reference**	: BBMP/EE/BTP/WO/ /2016-17 Dated: 16.05.2016
* **Sample ID**	: Culvert Deck Slab Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* **Grade of Concrete**	: M_{20}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 20.06.2016

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	23.05.2016	20.06.2016	8.198	499.6	22.20
2	23.05.2016	20.06.2016	8.278	506.0	22.49
3	23.05.2016	20.06.2016	8.336	485.6	21.58

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VISHWANATH. I.A.
Chief Executive Officer

AE(W)

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/RHM/CSR-05/040d/CUBE/2016-17 21.06.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer**	: **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
*** Agency**	: **Mr. Rakesh H.M,** #112/B, 2nd Floor, Lottegollahalli, Devinagara, Bangalore-94.
*** Name of the work**	: Improvements of Roads from Amruthahalli Hanmanthappa House to Muninagappa House in Ward No. 7, Byatarayanapura, BBMP, Bangalore.
*** Reference**	: BBMP/EE/BTP/WO/ /2016-17 Dated: 16.05.2016
*** Sample ID**	: Drain Covering Slab Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
*** Grade of Concrete**	: M_{20}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 21.06.2016

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	24.05.2016	21.06.2016	8.289	503.6	22.38
2	24.05.2016	21.06.2016	8.374	517.0	22.98
3	24.05.2016	21.06.2016	8.463	532.1	23.65

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VISHWANATH. I.A.
Chief Executive Officer

AE(Civil)

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/RHM/CSR-05/040d/CUBE/2016-17 23.06.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. Rakesh H.M,**
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*** Name of the work** : Improvements of Roads from Amruthahalli Hanmanthappa House to Muninagappa House in Ward No. 7, Byatarayanapura, BBMP, Bangalore.

*** Reference** : BBMP/EE/BTP/WO/ /2016-17 Dated: 16.05.2016

*** Sample ID** : Road Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : M_{20}

Compressive Strength as on : 28^{th} day

Sample Received on : 23.06.2016

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	26.05.2016	23.06.2016	8.174	512.9	22.79
2	26.05.2016	23.06.2016	8.296	535.2	23.79
3	26.05.2016	23.06.2016	8.352	531.3	23.61

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Chief Executive Officer

AE (WTH)

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Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com